

Amarjit Singh Dhillon

Masters of Applied Science in Systems and Computer Engineering
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HIGHLIGHTS

- Work experience of 4+ years in IT with clients such as TELUS, Royal Bank of Scotland (RBS) and IBM.
- 3+ years of experience in big-data technologies including Hadoop, ETL, Storm, Spark, Hive, Pig, YARN, and Flink.
- Worked on SQL and NoSQL databases including HDFS, MySQL, SQLite, MongoDB, Elastic Search, and Cassandra.
- 5+ years of experience in Java (SE and J2EE), Python, C, and C++.
- Experience in CI/CD tools and using virtualization, container-based platforms such as Kubernetes and Docker.
- Project level experience in working with Kafka, Zookeeper, ActiveMQ, and MQTT.
- Experience with a variety of high-level languages and frameworks such as TensorFlow, Keras, Tableau, SAS, MATLAB, PyTorch, SKlearn, Pandas, Matplotlib etc.
- Familiar with various cloud concepts and services provided by cloud vendors such as AWS and GCP.
- Developed a Proof of Concept (PoC) prototype to provide real-time CEP analytics capabilities on embedded devices.
- Have understanding of working on servers, load balancers, clustering techniques and high availability.
- Worked with various dependency management systems such as Maven, Nexus, Gradle, Gem, and Brew.
- Experience in working with scripting languages such as *perl*, *bash*, *awk*, and *sed*.
- Highly proficient in Macintosh, Linux and comfortable in Windows.

EDUCATION

Carleton University

Master's of Applied Science (M.A.Sc.), GPA: 11.6/12

Ottawa, Canada

Jan 2016 – Nov 2018

Thesis Title: Real-time data analytics using Complex Event Processing (CEP) in sensor-based systems

- Collaborated with TELUS Health to device a edge-based CEP system and developed a PoC to demonstrate its viability.
- Used technologies such as Hadoop, Flink, Spark, AWS, WSo2 IoT server, Siddhi CEP, Esper CEP, Android, Bash, MQTT, ActiveMQ, Apache Kafka, Pig, Hive, Oozie, Sqlite3, H2, Cassandra, Gradle, DataDog, StatsD, and Elastic Search (ELK).
- Embedded a CEP engine on a embedded device to provide \$13/hour savings, 5% lesser power usage (10+ other metrics).

Punjabi University

Bachelor of Technology (B.Tech.) in Computer Engineering

Patiala, India

June 2007 – June 2011

WORK EXPERIENCE

Saba Software

Software Developer

Ottawa, Canada

Feb 2019 - Present

Carleton University

Graduate Research Assistant

Ottawa, Canada

Jan 2016 - Aug 2018

Carleton University

Graduate Teaching Assistant

Ottawa, Canada

Jan 2017 - Dec 2017

- Object Oriented Software Development (SYSC 2004), Intro to Software Engineering (SYSC 3020) and Software Product Management (SYSC 4106).

Smoke Tech Private Limited

Web and Graphic Designer

Chandigarh, India

Feb 2014 - July 2015

- Worked with technologies such as Android programming (using Java), iOS Apple Xcode (using Swift), PHP, HTML5, JavaScript, CSS, AJAX, WordPress (CMS), Xamarin, AWS, Joomla, Git and Agile methodology (JIRA), FireBase, ADB, Gradle, Maven, Ruby, CocoaPods, TestFlight, IntelliJ IDEA, GenyMotion, SQLite.
- Worked on design tools including Illustrator, PhotoShop, Corel, Bootstrap, Sketch, Adobe CC Suite, and InDesign.

Infosys Limited

Systems Engineer

Bangalore, India

July 2011 - Oct 2012

- Worked with technologies such as Core Java, C++, RESTful and SOAP web services, JMS, JPA, Spring Framework, Swing Framework, Hibernate Framework, JDBC, Servlets, EJB, JBoss, IBM WebSphere, MySQL, SQL Server, WebLogic application server, Tomcat, Jetty, Wildfly, Citrix Server, Unix (Solaris), SAML, RBAC and SSL.
- Configured IBM policy enforcer, IBM Webseal using policy server, Tivoli Access Manager (TAM) to provide single sign-on, authentication, authorization and security features for enterprise clients.
- Worked with Royal Bank of Scotland (RBC) client to provide technical support to 250+ services related to managing bank servers, debit/credit cards, and updating client accounts.

INTERNSHIPS

Morph Academy

Graphic Design Intern

*Chandigarh, India
Feb 2013 - Jan 2014*

- Designed websites based on PHP, AJAX, JavaScript, WordPress, and Aqua Drupal.

Infosys Limited

Systems Engineer Trainee

*Mysore, India
Jan 2011 - June 2011*

- Gained hands-on programming experience with C, C++, HTML, Perl, and Oracle.

PROJECTS

Real Time object detection with TensorFlow

Sept 2018 - Oct 2018

- Used TensorFlow object detection API using Single Shot Detectors (SSD) to detect objects in real time.
- Trained and tested model with accuracy of 98%.

Image Classification of Handwritten digits

April 2018 - May 2018

- Analyzed MNIST database with 60,000 digits for training data and 10,000 digits for test data with 10 classes.
- Achieved 99% accuracy using Convolutional Neural Networks.

Twitter Sentiment Analysis

Jan 2018 - Feb 2018

- Programmed a system to perform sentiment analysis based on Flink CEP engine using Twitter API.
- Calculated an average sentiment of live tweets based on "Football" hashtag.

Analysis of schedulers for Map-Reduce jobs

Nov 2017 - Dec 2017

- Analyzed different scheduling methodologies to develop an optimal resource management technique.
- Performed 200+ simulations on the map-reduce model by changing the job arrival rate, task execution time, earliest start time, deadline multiplier, and map and reduce slots to analyze various techniques.

AWARDS AND HONORS

- Awarded Senate medal (Master's level) for outstanding academic achievement at Carleton University. *Sept 2018*
- Received IEEE best paper award for developing an edge-based stream analytics system. *Aug 2018*
- Received award during data day poster 5.0 competition held at Carleton University. *June 2018*
- Awarded Natural Sciences and Engineering Research (NSERC) scholarship at Carleton University. *Jan 2017*

LIST OF PUBLICATIONS

- Dhillon, A., Majumdar, S., St-Hilaire, M. and El-Haraki, A., "MCEP: a Mobile Device Based Complex Event Processing System for Remote Healthcare", 11th IEEE International Conference on Internet of Things (IEEE iThings 2018).
- Dhillon, A., Majumdar, S., St-Hilaire, M. and El-Haraki, A., "A Mobile Complex Event Processing System for Remote Patient Monitoring", IEEE International Congress on Internet of Things (IEEE ICIOT 2018).

REFERENCES (MORE REFERENCES ARE AVAILABLE ON REQUEST)

- [Dr. Shikharesh Majumdar](#)
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- [Dr. Marc St-Hilaire](#)
Associate Professor and NET Coordinator at Carleton University, Canada
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